



February 24, 2011

INTERSTATE 80

Integrated Corridor Mobility (ICM) Project

MTC Tech Transfer Session Arterial/Freeway Integration



Presenters:

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Randy Durrenberger – *Kimley-Horn and Associates*



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PROJECT LOCATION

Interstate 80

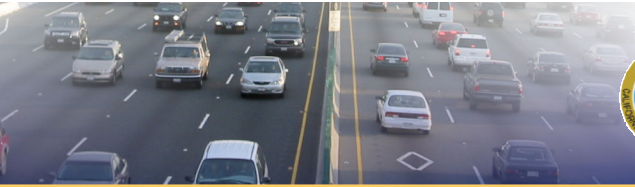


San Pablo Avenue



Existing Conditions

- I-80 is the most congested freeway corridor in the Bay Area
- Accident rate in the southern segment is almost double the statewide average
- By 2035, freeway demand will increase by 50%; resulting in much worse congestion



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Project Background

- Funding secured in 2007/2008
- Project Strategies
 - Provide tools to actively manage traffic during normal conditions and during incidents
 - Provide information to drivers
- Involvement
 - State, regional, county, local and transit agencies



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Project Team

Project Sponsor

Alameda CTC

Project Leadership Team

Caltrans	MTC
ACTC	CCTA

Project Stakeholders

10 City and County
representatives - WCCTAC
Transit Agencies



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Project Goals

- Reduce travel time throughout the corridor
- Improve travel time reliability
- Improve safety by reducing occurrence of secondary incidents
- Provide enhanced traveler information
- Deploy an integrated system between freeway and arterials



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Proposed Solutions

- Transportation system management for optimizing existing network capacity through
 - Mainline incident management and adaptive ramp metering techniques
 - Local arterials throughput improvements, including traffic signal synchronization
 - Signal coordination between jurisdictions
 - Traveler information and operational improvements for alternative modes of transportation



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I-80 ICM Project Elements

- Mainline Adaptive Ramp Metering
- Mainline Incident Management
- Traffic and Transit Information
- Local Parallel Arterial Improvements (Route 123 / San Pablo Avenue)
- Integration of Freeway and Local Arterial Operations



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Scope – Adaptive Ramp Metering (ARM)

- 44 west and eastbound on-ramps will be metered
 - Adaptive means green rate will adjust (increase or decrease) based on traffic flows on the mainline freeway and on-ramp queues
 - ARM will reduce mainline merging conflicts and optimize flow on freeway and on-ramps





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Scope - Incident Management

- 270 major incidents per year during peak period within the project limits
- Accidents rate highest (double the statewide average) between Albany and Emeryville
- Existing TOS elements are currently used by Caltrans for incident management
- Warn motorists of incidents ahead by using:
 - Electronic Changeable Message Signs
 - Overhead Lane Use Signs
 - Variable Advisory Speed Signs
 - Trailblazer Signs on Local Streets
 - Highway Advisory Radios





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Scope - Incident Mgmt. (cont.)



Example of Overhead Lane Use Signs and Variable Advisory Speed Signs on WB I-80 from Cutting St. to Powell St.



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Scope - Incident Mgmt. (cont.)





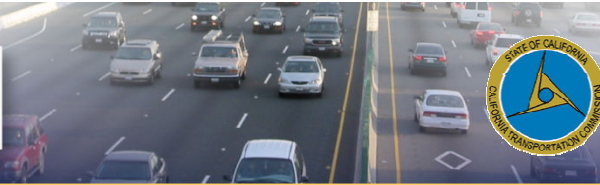
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Scope - Incident Mgmt. (cont.)

- Trailblazer Sign and Local CMS – Similar approach as San Mateo Smart Corridor





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Scope – Transit and Traffic Information

- Provide Transit Signal Priority on Route 123 / San Pablo Avenue
- Provide Real-Time Transit and Traffic Information to Motorists
- Elements include new Information Display Boards and integration with existing Changeable Message Signs



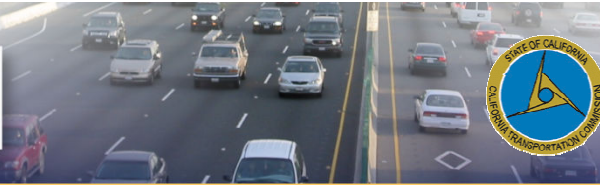


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Scope – Transit and Traffic Information





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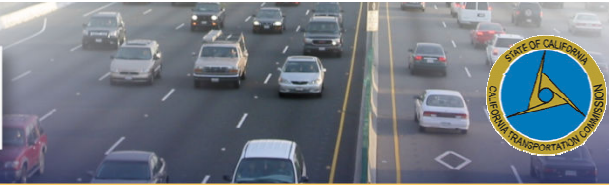
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Scope – San Pablo Corridor Arterial and Transit Improvements

■ Key Elements

- ✓ Traffic Signal coordination and Signal Interconnect along Route 123 / San Pablo Ave and Connecting Arterials
- ✓ Installation of Detection and Communication Equipment
- ✓ Various Transit Improvements
- ✓ Strategies part of Incident Response Plan





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Scope – System Integration

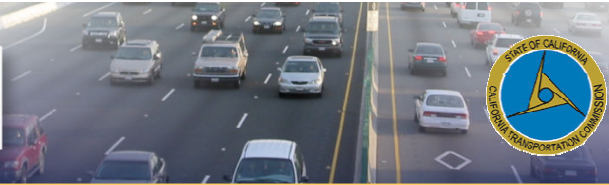
System Integration is

- Developing a network that talks to each project component such as Adaptive Ramp Metering, Variable Advisory Speed Signs, CCTV Cameras, Lane Use Signs and Trailblazers

- Benefits

- ✓ Sharing of corridor traffic and transit information among various agencies
- ✓ Automated operations of the system
- ✓ Proactive and coordinated management of traffic on the freeway and local arterials





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Project Benefits

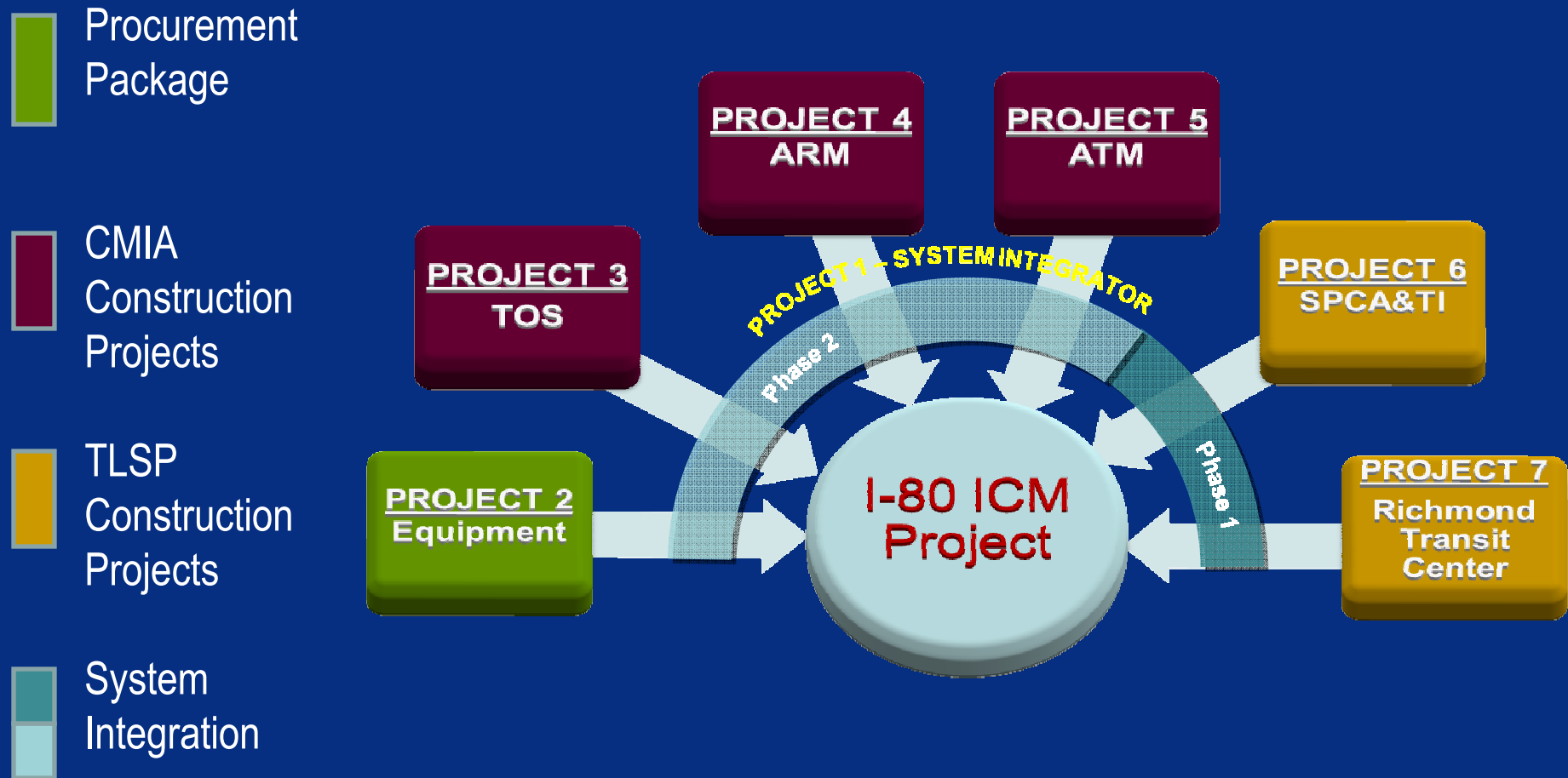
- Reduce freeway congestion and delay (1-3 minute reduction in trip per driver)
- Reduce primary and secondary accidents and improve safety (reported 50% reduction)
- Improve traffic flow along the corridor and local arterials, primarily during incidents
- Provide real time information to motorists, including alternative mode of transportation
- Integrate the interstate and local arterials systems



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Delivery Strategy – Project Split





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Project Funding

Project	Capital Budget
Project #1 – Software and Systems Integration	\$5.577 M
Project #2 – Specialty Materials Procurement	\$4.659 M
Project #3 – Traffic Operations System (TOS)	\$2.144 M
Project #4 – Adaptive Ramp Metering	\$9.426 M
Project #5 – Active Traffic Management	\$25.294 M
Project #6 – San Pablo Corridor Arterial and Transit Improvements	\$13.976 M
Project #7 – Richmond Parkway Transit Center	\$4.000 M
TOTAL	\$65.076 M



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Operations and Maintenance

- Cost challenges are a major point of current discussions
- A single Memorandum of Understanding will capture roles and responsibilities for all project elements, including cost responsibilities
- Operations – Agreement that Caltrans should control all devices during incidents
- Maintenance – Currently discussing different strategies



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Look Ahead Schedule

- Execute Contract for Construction Management March 2011
- Advertise Project #3 (TOS Elements) March 2011
- Advertise Project #6 (San Pablo Avenue Arterial/Transit Improvements) March 2011
- Circulation of Draft Environmental Document (for Projects Nos. 1,2,4 & 5) March 2011
- Certification of Final ED and Project Approval July 2011
- Advertise Project #1 – Software and System Integration March 2012
- Advertise Project #4 – Adaptive Ramp Metering May 2012
- Advertise Project # 5 – Active Traffic Management May 2012
- Advertise Project #2 – Specialty Materials Procurement October 2012



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Questions

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